

The State of New Hampshire
Department of Environmental Services



Michael P. Nolin
Commissioner

February 1, 2005

Letter of Deficiency
DSP#05-001

Mr. Kurt Meier
Andover Village Water District
P.O. Box 147
Andover, NH 03216

RE: Bradley Lake Dam #008.02, Andover

Dear Mr. Meier:

The Department of Environmental Services, Dam Bureau (DES) consistently strives to enhance the safety of dams in New Hampshire through its dam safety program. One of the many instruments that play a part in reaching this goal is our inspection program. DES is forwarding this correspondence to you to advise you that in accordance with RSA 482:12 and Env-Wr 502.02, an inspection of the subject dam was conducted on December 9, 2004. During this visual inspection and subsequent file review, the deficiencies listed below were observed. Please note that the left or right directions mentioned below are referenced as looking downstream. In addition, a sketch is attached to provide further clarity:

1. There are trees and brush located on the upstream left end of the embankment located across from the parking area;
2. There is erosion on both the upstream and downstream slopes of the embankment at the left end of the dam located across from the parking area. This erosion is likely due to foot traffic;
3. There is small bush located to the right of the erosion path on the upstream embankment slope;
4. There is eroded concrete on the spillway apron located to the left of the low level outlet sluice where the apron transitions to a vertical face prior to water flowing under the bridge;
5. There is minor vegetation growth and spalling of the concrete on the left spillway abutment wall where it transitions to the bridge abutment;
6. There is a diagonal crack located on the left spillway abutment wall. The crack is approximately 1/8 of an inch wide with efflorescence visible. The crack is only located in the vertical portion of the wall and terminates where the wall transitions to the battered wall;
7. There is spider cracked and eroded concrete located at the upstream right spillway abutment walls;
8. There is brush growth adjacent to the right spillway abutment walls located on the upstream embankment slope;

Letter of Deficiency
Dam #008.02/DSP#05-001
February 1, 2005
pg. 2

9. There is tree and brush growth on the right embankment upstream slope extending between the spillway and permanent dock;
10. The condition of the low level gate is unknown. According to the plans there is an approximate 2.5 foot square wooden bulkhead with an eye bolt located on top. It is not known if the owner has an operations plan in place to remove the bulkhead in the event of an emergency;
11. The Emergency Action Plan (EAP) does not contain a discussion of the breach parameters used, sunny day versus wet weather breach flows, or a clear description of the impact to downstream structures during both breach scenarios. In addition, the inundation map does not define which breach event, flooding depth, and peak flood arrival times are mapped; and
12. There is no operation and maintenance plan (O&M) on file with DES.

DES believes that the above deficiencies can be corrected by performing the following items by the indicated schedule:

August 1, 2005:

1. Remove trees and brush from all areas of the dam embankment. The entire footprint of the dam as shown on the attached sketch must be kept clear of all brush and trees;
2. Prepare and submit an O&M plan in accordance with the attached guidelines. In addition to the items listed in the guidelines, the plan must include an operations procedure for removing the wooden bulkhead at the low level outlet and an item to monitor the diagonal crack located on the left spillway wall;
3. Repair the erosion located on the left embankment crest on both the upstream and downstream slopes which is located across from the parking area on the downstream side of the street;
4. Repair the eroded concrete on the spillway apron located to the left of the low level outlet sluice where the apron transitions to a vertical face prior to water flowing under the bridge;
5. Remove the minor vegetation growing in the concrete located on the left spillway abutment wall where it transitions to the bridge abutment; and
6. Review the breach model and prepare a discussion of breach parameters, flows and events modeled. In addition the mapping should be updated if necessary. This item should be completed with the assistance of the NHDES EAP Coordinator, Bethann McCarthy, P.E. at 271-4167.

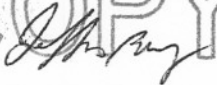
DES is requesting that you complete and submit the attached "Intent to Complete Repairs" form, within 30 days of receipt of this letter, that will provide for correction of the identified deficiencies by the date(s) indicated above. Please call or write to our office if the repairs are completed ahead of the aforementioned schedule so that DES may schedule a follow-up inspection. Unless notified otherwise, DES will conduct the follow-up inspection on or after the date(s) indicated above. If you believe changes to the items of work or dates are necessary, please make the changes directly on the form and provide a brief explanation. We have enclosed a self addressed stamped envelope for you to return this form.

Letter of Deficiency
Dam #008.02/DSP#05-001
February 1, 2005
pg. 3

Our intent in sending you this correspondence is to make you aware of items that DES believes warrant your attention to insure the continued safe operation of your dam. It is our hope that, through the submittal of the attached form and a commitment to keeping a well-maintained dam, you will voluntarily comply with the requested items of work.

If you have any questions or comments regarding this Letter of Deficiency or would like to be present at future inspections, please contact me at 271-3406, or write to the Water Division at the address listed on the bottom of the cover page.

Sincerely,


A large, faint, stylized word 'COPY' is printed diagonally across the signature area.

Jeffrey M. Blaney, P.E.
Dam Safety Engineer

Attachments Guideline for an O&M plan, DB8, DB13, Sketch Illustrating Deficiencies

cc: Gretchen R. Hamel, Legal Unit Administrator ✓

Bethann McCarthy, P.E., EAP Coordinator

Town of Andover

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